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AUTHOR Frye, Bill J.
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ABSTRACT

A nontraditional student can be defined as a student other than the new high school graduate. A 1980 profile by the American Association of Community and Junior Colleges shows that the typical nontraditional student is 36 years old, female (57 percent), has an income of $20,300, has attended two years of college, goes to school for career and/or personal enhancement, is paying for school with own (57 percent) or employer's (24 percent) money, and is likely to attend a two-year college. Early research stated that learning abilities decline with age, but later studies have shown that although some aspects of learning capacity decline as people grow older. other aspects of intelligence, such as acculturation and problem-solving experience, make up for the decline. These factors account for the resounding success of the adult re-entry student. Institutions need to consider the needs of the adult learner in formulating their programs, making as many individualized opportunities available as possible. Specific recommendations include the following: (1) make registration easy: (2) replace bad instructors: (3) instructors should not lessen requirements but should take into account adult learning styles, prior experiences, and needs in designing and conducting their course. (KC)

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EFFECTIVELY MEETING THE NEEDS OF THE NON-TRADITIONAL TECHNICAL EDUCATION STUDENT

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Presented by: Bill J. Frye, Director
Center for the Study of Higher Education
University of Akron
Akron, Ohio 44325

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EFFECTIVELY MEETING THE NEEDS OF THE NON-TRADITIONAL TECHNICAL EDUCATION STUDENT

INTRODUCTION

This writing defines the non-traditional student as one who is other than the newly graduated high school student. It focuses upon an overview of selected research related to the adult student.

The body of the writing presents a brief evolution of research in an attempt to account for early misconceptions about the adult learners' ability. It concludes with a research thrust which is empirically based, and, in the opinion of the writer, logically sound in accounting for the striking re-entry success which today's adult technical student has experienced.

The final section presents a listing of specific institutional recommendations to give meaningful response to the needs of the adult Technical Education student.

WHO IS THE "TYPICAL" ADULT STUDENT?

Data released by the National Center for Education Statistics and compiled by the American Association of Community and Junior Colleges (March, 1980) provide the following profile:

Age	36 years
Sex	57% female; 43% male
Income	$20,300.00
Education	2-years of college
Goal	Career and/or personal enhancement
Paid for by	own money (57%); employer (24.1%)
Likely institution	two-year college

In resounding footsteps to the bursar's office, 18.2 million or 11.8% of the adult population (17 years or older) are enrolled as "adult" students (AACJC., 1980). Coming at a time when higher education is bolstering itself for an end-of-growth period, the adult learner is welcomed in many ways. The literature abounds with ideas and suggestions, the term "Life-Long-Learning" has become a prominent part of institutional promotional materials, and new titles and offices are being established within institutions to serve the "new" students.

For many of us who have been in the adult education field long enough to know that we are now talking and writing about ourselves, some of the "hype" is at once exciting--to see this valued student now getting some well-deserved attention--and disheartening; are we simply re-packaging an old product? Does today's emphasis reflect a true response to needs of the adult learner or are we only seeking to keep the cash flow sound through this eager consumer?

UNDERSTANDING THE NATURE OF THE ADULT LEARNER

A significant point at which to begin an examination of empirical evidence about the adult learner is 1927. At that time, Edward L. Thorndike reported his findings on the ability of the adult to learn. The event was the American Association for Adult Education annual meeting (Knowles, 1970). The significant and unfortunately lasting effect of Thorndike's paper was that "yes," the adult can learn, but at a rate which decreases

by about 1% per year after age twenty-five.

Thorndike's "Curve of Learning," as reproduced from his 1928 book on Adult Learning is presented in Figure I (p. 127).

The General Form of the Curve of Ability to Learn in Relation to Age

Figure I

Source: Thorndike, 1928, p. 127.

Having read Thorndike's fateful Chapter Eleven time and time again, it must be allowed that he was, at the time, on the threshold of understanding both the nature of the adult learner and good applied research techniques.

Notwithstanding Thorndike's influence, subsequent work by Lorge (a student and a protégé of Thorndike) revealed that the decline was really in speed of learning and not in ability to learn (Lorge, 1963). Irving Lorge added much to our early understanding of the adult learner in his work on re-interpreting prior research in terms of speed and ability.

Owens' classic longitudinal study and follow-up served to cement the notion that adults continue to learn and may offer

qualities making them superior students. See Figure II.

Learning Ability and Age Based on Longitudinal and Cross-Sectional Studies

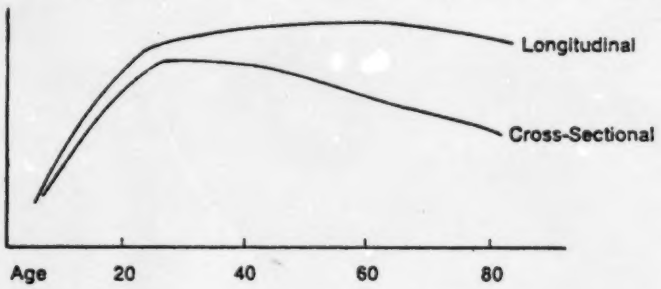

Figure II
Source: Owens (1966), Jones and Conrad (1933) (in: Knox, 1977), p. 416.

Briefly, Owens retested a sampling of 127 males from the 1919 applicants to Iowa State College. Using the same test which the sample had taken thirty years earlier, the findings of this 1949-1950 study reshaped much of our thinking about the adult learner. This group made a significant increase in total test score (Army Alpha).

Approximately eleven years after his 1949-50 testing, Owens re-administered the exam to nearly one hundred of his sample. At that time, and at the approximate age of 61, the sample generally maintained the levels they had attained at age 50 (Owens, 1953,1954).

From the early struggles to understand the nature of the adult learner, we are now at a juncture which provides both a good philosophical base and practitioner knowledge to begin to deal with the adult learners' needs. Robert Havighurst (1961,1970) has provided us with a profile of adult developmental stages and appropriate educational responses; Malcolm Knowles (1950,1970,1975,1978) has presented numerous specifics

about conducting effective adult education programs. Knowles has also provided us with the term "Andragogy" which he defines as "the art and science of helping adults learn" (Knowles, 1970, p. 38).

Knox (1977) has presented us with a clear "state-of-the-science" synthesis of research on the adult learner. The reader is encouraged to examine Chapter Seven for a comprehensive review and interpretation of relevant research.

A major premise made my Knox is depicted by Figure III, wherein, through the use of trend lines the relationship between learning capacity and performance across age is offered.

Capacity, Performance, and Age

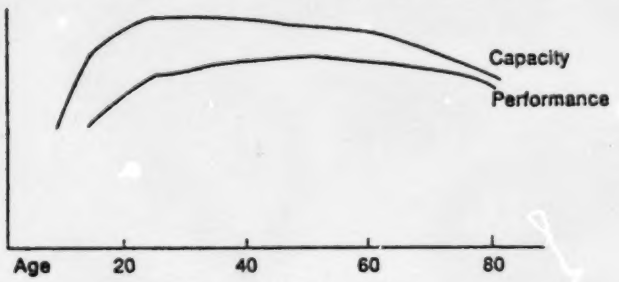

Figure III

Source: Knox, 1977, p. 414.

Capacity is presented as ceiling capacity; as such, it is most often the subject of empirical investigation. Performance may be thought of as a functional level. By practical example, one may be performing at what is felt to be their maximum, e.g., heavily committed to work, family, recreation, church, etc. However, with adequate motivation, the learning capacity could handle all of these functions plus learn Spanish or shorthand or

about the French Revolution. This important point is necessary to temper some empirical indicators of modest diminution of learning capacity with advanced age. Our functional performance level is typically so far below our capacity that a modest decrease in ceiling capacity will yield no significant overt effect.

Figure IV presents a compelling graphic depiction of the several forces at play within the adult learner, and their typical trends.

Fluid and Crystallized Intelligence:

Related Variables and Age Trends

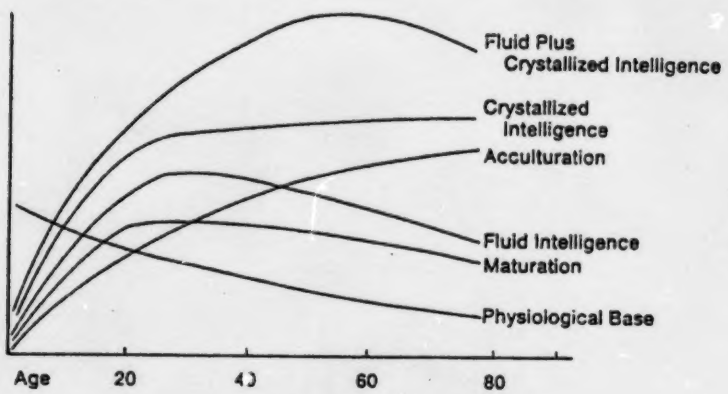

Figure IV

Source: Horn (in Knox, 1977, p. 422)

In interpreting Figure IV, the two significant and inverse factors which are viewed as having major impact upon adult intelligence are "acculturation" and "physiological base". (See Cattell, 1963; Horn and Cattell, 1966; Horn, 1967; Cattell, 1968; Horn, 1970.) The physiological base reflects a limiting factor as applied to time-based information processes. This base has

innate, as well as neuro-physiological factors, the latter of which is subject to time deterioration. A declining physiological base affects fluid intelligence functions, i.e., short-term memory, form concepts, abstract reasoning, complex-relationship perception, matrices, verbal reasoning with common materials (Knox, 1977).

Acculturation, which includes formal and informal education, active information processing in other forms, and knowledge of societies' cultural heritage, manifests in the form of crystallized intelligence. Crystallized intelligence encompasses formal reasoning, relationship perception, vocabulary, arithmetic reasoning, reading comprehension, synonyms, etc.

The elevated "Fluid Plus Crystallized Intelligence" trend line reflects the adult learners' ability to use the "best available tools" to attack learning problems. In other words, the adult learners' cultural accumulation, built through years of work, social, and family problem-solving, teaches the adult his or her best way to find answers to problems.

Although many formal standardized tests may attempt to discretely measure crystallized or fluid intelligence forms, most educational situations allow the learner to use his or her uniquely developed, best available skills to master course requirements.

INSTITUTIONAL RECOMMENDATIONS

Establishing an office of "Life-Long-Learning" or a "Human Resource Center" is likely to be effective only to the

extent that its goals and limitations are made clear to all instructional units of the institution. Assessment and career-counseling are obviously key functions of such centers. However, if every prospective adult student interview concludes with a handshake and a fixed program plan for a particular area of study, then we have been a party to the "keep the coffers flowing" crime against the adult learner.

Each teaching unit must be philosophically and operationally linked to adult "centers". The department must make specific adult learner assessments as they relate to the students' prior experiences. Additionally, a means for making programmatic responses is essential to building a meaningful program of studies for the adult learner. Incidentally, Ohio's state authorized "Associate of Technical Study" and "Associate of Individualized Study" are exemplary programmatic means to serve such needs.

If an institution perceives the process as completed when the assessment and program of studies functions are completed, a dire mistake has been made. It remains for the student to survive the registration process, and meet face-to-face today's technical instructor.

We have no meaningful data on how many eager, "I-can-do-it" beginning adult students have discontinued their studies as a direct result of demeaning, cumbersome registration processes; being told to "grid this in" makes no sense to some adults. Similarly, the number of students who encounter a bad instructor at or near the beginning of their studies and choose to drop or simply stop attending the class is difficult

to determine. When an adult learner discontinues his studies due to either poor registration procedures or bad teaching, this is an institutional concern, and all the good intentions which went into helping the adult get started have been wasted for the most shameful of reasons.

SPECIFIC RECOMMENDATIONS

Administration

1. Allow the student to have both dignity and registration completed.
2. Take your "new" student as a reason for "repairing" or replacing bad instructors.

Instructors

3. Within courses, lessen no requirements for the adult learner.
4. Provide objectives and explain how they are used.
5. Remove artificial time constraints on testing, note-taking, etc.
6. Make no assumptions about "Can you hear", "Can you see this", "Do you understand." It is your responsibility to determine each of these.
7. Give only meaningful, justifiable assignments.
8. Determine the adults' experiences and integrate them into the class.
9. Allow the student time to adjust to today's "open" class environment.
10. Design early evaluations and assignments for success.
11. Recognize the adult's need for positive reinforcement.

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